



DO THE MATH!

Object: Performing Math Functions with an Electronic Balance



EQUIPMENT

- Ohaus Compact Scale (2000g or 5000g capacity recommended)
- Gram cubes measuring one centimeter on each side with a mass of 1 gram each

PROCEDURE

ADDITION - Place any number of gram cubes on the balance. It will display that number. Add a few more, it will display that number. Use this method to visually demonstrate adding whole numbers.

SUBTRACTION - As you remove gram cubes, it will display the new total. Use this method to visually demonstrate subtraction of whole numbers.

NEGATIVE NUMBERS –

1. Place the desired number of cubes on the scale and press the On/Zero button. Display should now read 0 while cubes are still on the pan.
2. Remove the cubes. The display should now show a negative number equal to the number of cubes originally placed on the pan.
3. You may now use the scale to visually represent addition of a positive to a negative number by placing cubes back on the scale. *EX. Place 10 cubes on scale, press On/Zero, remove 10 cubes and display should read -10, now introduce addition problems such as $-10 + 4 = X$. Students place 4 cubes on pan which will then read -6.*

NOTES/EXTENSION

- Capacity of scale will determine amount of numbers available to use (2000g capacity = numbers up to 2000)
- Square of cubic numbers - If student assembles a 3 cm square of cubes (9 square cm) and places the 3 square cm assembly on balance, it will read 9g.